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SEQUENCE LISTING

<110> JENTSCH, THOMAS J.

<120> TEST SYSTEM FOR THE DEVELOPMENT OF THERAPEUTIC AGENTS,  
IN PARTICULAR ACTIVE COMPOUNDS FOR THE TREATMENT OF  
OSTEOPOROSIS

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<140> 10/622,377

<141> 2003-07-18

<150> PCT/DK02/00038

<151> 2002-01-17

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<170> PatentIn Ver. 3.2

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Ala Ala Phe Val Leu Arg Ser Ile Asn Pro Phe Gly Asn Ser Arg Leu	
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gtc ctc ttt tat gtg gag tat cat aca cca tgg tac ctt ttt gaa ctg	1371
Val Leu Phe Tyr Val Glu Tyr His Thr Pro Trp Tyr Leu Phe Glu Leu	
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Phe Pro Phe Ile Leu Leu Gly Val Phe Gly Gly Leu Trp Gly Ala Phe	
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Phe Ile Arg Ala Asn Ile Ala Trp Cys Arg Arg Arg Lys Ser Thr Lys	
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Phe Gly Lys Tyr Pro Val Leu Glu Val Ile Ile Val Ala Ala Ile Thr	
365 370 375 380	

gct gtg ata gcc ttc ccc aac cca tac aca agg ctc aac acc agt gaa	1563
Ala Val Ile Ala Phe Pro Asn Pro Tyr Thr Arg Leu Asn Thr Ser Glu	
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Leu Ile Lys Glu Leu Phe Thr Asp Cys Gly Pro Leu Glu Ser Ser Ser	
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ctc tgt gac tac aga aat gac atg aat gcc agt aaa att gtt gac gat	1659
Leu Cys Asp Tyr Arg Asn Asp Met Asn Ala Ser Lys Ile Val Asp Asp	
415 420 425	
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Ile Pro Asp Arg Pro Ala Gly Val Gly Val Tyr Ser Ala Ile Trp Gln	
430 435 440	
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Leu Cys Leu Ala Leu Ile Phe Lys Ile Ile Met Thr Val Phe Thr Phe	
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Gly Ile Lys Val Pro Ser Gly Leu Phe Ile Pro Ser Met Ala Ile Gly	
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Ala Ile Ala Gly Arg Ile Val Gly Ile Ala Val Glu Gln Leu Ala Tyr	
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tat cac cac gac tgg ttt atc ttc aag gag tgg tgt gag gtt ggg gct	1899
Tyr His His Asp Trp Phe Ile Phe Lys Glu Trp Cys Glu Val Gly Ala	
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Asp Cys Ile Thr Pro Gly Leu Tyr Ala Met Val Gly Ala Ala Ala Cys	
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Leu Gly Gly Val Thr Arg Met Thr Val Ser Leu Val Val Ile Val Phe	
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Glu Leu Thr Gly Gly Leu Glu Tyr Ile Val Pro Leu Met Ala Ala Val	
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Met Thr Ser Lys Trp Val Gly Asp Ala Phe Gly Arg Glu Gly Ile Tyr	
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gaa gca cac atc cga cta aat ggg tac cct ttc ttg gat gca aaa gaa	2139
Glu Ala His Ile Arg Leu Asn Gly Tyr Pro Phe Leu Asp Ala Lys Glu	
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gaa ttc act cat aca acc ctg gct gct gat gtt atg aga cct cga aga 2187  
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 Ser Asp Pro Pro Leu Ala Val Leu Thr Gln Asp Asn Met Thr Val Asp  
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ata atg tca aaa gaa tct cag aga tta gtg gga ttt gcc ctc aga aga 2331  
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 Thr Ala Asn Gln Asp Pro Ala Ser Ile Met Phe Asn  
 750 755 760

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&lt;211&gt; 760

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 4

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Ile Asp Trp Val Arg Glu Lys Cys Lys Asp Arg Glu Arg His Arg Arg
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Ile Asn Ser Lys Lys Lys Glu Ser Ala Trp Glu Met Thr Lys Ser Leu
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Tyr Asp Ala Trp Ser Gly Trp Leu Val Val Thr Leu Thr Gly Leu Ala
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Ser Gly Ala Leu Ala Gly Leu Ile Asp Ile Ala Ala Asp Trp Met Thr
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Asp Leu Lys Glu Gly Ile Cys Leu Ser Ala Leu Trp Tyr Asn His Glu
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Gln Cys Cys Trp Gly Ser Asn Glu Thr Thr Phe Glu Glu Arg Asp Lys
          115          120          125

Cys Pro Gln Trp Lys Thr Trp Ala Glu Leu Ile Ile Gly Gln Ala Glu
          130          135          140

Gly Pro Gly Ser Tyr Ile Met Asn Tyr Ile Met Tyr Ile Phe Trp Ala
          145          150          155          160

Leu Ser Phe Ala Phe Leu Ala Val Ser Leu Val Lys Val Phe Ala Pro
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Tyr Ala Cys Gly Ser Gly Ile Pro Glu Ile Lys Thr Ile Leu Ser Gly
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Phe Ile Ile Arg Gly Tyr Leu Gly Lys Trp Thr Leu Met Ile Lys Thr
          195          200          205

Ile Thr Leu Val Leu Ala Val Ala Ser Gly Leu Ser Leu Gly Lys Glu
          210          215          220

Gly Pro Leu Val His Val Ala Cys Cys Cys Gly Asn Ile Phe Ser Tyr
          225          230          235          240

Leu Phe Pro Lys Tyr Ser Thr Asn Glu Ala Lys Lys Arg Glu Val Leu
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Ser Ala Ala Ser Ala Ala Gly Val Ser Val Ala Phe Gly Ala Pro Ile
          260          265          270

Gly Gly Val Leu Phe Ser Leu Glu Glu Val Ser Tyr Tyr Phe Pro Leu
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Lys Thr Leu Trp Arg Ser Phe Phe Ala Ala Leu Val Ala Ala Phe Val  
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 305 310 315 320  
 Val Glu Tyr His Thr Pro Trp Tyr Leu Phe Glu Leu Phe Pro Phe Ile  
 325 330 335  
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 Asn Ile Ala Trp Cys Arg Arg Arg Lys Ser Thr Lys Phe Gly Lys Tyr  
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 Pro Val Leu Glu Val Ile Ile Val Ala Ala Ile Thr Ala Val Ile Ala  
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 420 425 430  
 Pro Ala Gly Val Gly Val Tyr Ser Ala Ile Trp Gln Leu Cys Leu Ala  
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 Pro Ser Gly Leu Phe Ile Pro Ser Met Ala Ile Gly Ala Ile Ala Gly  
 465 470 475 480  
 Arg Ile Val Gly Ile Ala Val Glu Gln Leu Ala Tyr Tyr His His Asp  
 485 490 495  
 Trp Phe Ile Phe Lys Glu Trp Cys Glu Val Gly Ala Asp Cys Ile Thr  
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 Pro Gly Leu Tyr Ala Met Val Gly Ala Ala Ala Cys Leu Gly Gly Val  
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 Thr Arg Met Thr Val Ser Leu Val Val Ile Val Phe Glu Leu Thr Gly  
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 Gly Leu Glu Tyr Ile Val Pro Leu Met Ala Ala Val Met Thr Ser Lys  
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Arg Leu Asn Gly Tyr Pro Phe Leu Asp Ala Lys Glu Glu Phe Thr His  
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 Thr Thr Leu Ala Ala Asp Val Met Arg Pro Arg Arg Ser Asp Pro Pro  
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 Leu Ala Val Leu Thr Gln Asp Asn Met Thr Val Asp Asp Ile Glu Asn  
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 Met Ile Asn Glu Thr Ser Tyr Asn Gly Phe Pro Val Ile Met Ser Lys  
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 Glu Ser Gln Arg Leu Val Gly Phe Ala Leu Arg Arg Asp Leu Thr Ile  
                                   645                                  650                                  655  
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 Arg Val Cys Phe Ala Gln His Thr Pro Ser Leu Pro Ala Glu Ser Pro  
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 Arg Pro Leu Lys Leu Arg Ser Ile Leu Asp Met Ser Pro Phe Thr Val  
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 Thr Asp His Thr Pro Met Glu Ile Val Val Asp Ile Phe Arg Lys Leu  
                   705                                  710                                  715                                  720  
 Gly Leu Arg Gln Cys Leu Val Thr His Asn Gly Arg Leu Leu Gly Ile  
                                   725                                  730                                  735  
 Ile Thr Lys Lys Asp Ile Leu Arg His Met Ala Gln Thr Ala Asn Gln  
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Gln Cys Cys Trp Thr Ser Asn Glu Thr Thr Phe Glu Asp Arg Asp Lys	
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Cys Pro Leu Trp Gln Lys Trp Ser Glu Leu Leu Val Asn Gln Ser Glu	
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Leu Leu Phe Ala Phe Leu Ala Val Ser Leu Val Arg Val Phe Ala Pro	
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Tyr Ala Cys Gly Ser Gly Ile Pro Glu Ile Lys Thr Ile Leu Ser Gly	
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Phe Ile Ile Arg Gly Tyr Leu Gly Lys Trp Thr Leu Leu Ile Lys Thr	
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Val Thr Leu Val Leu Val Val Ser Ser Gly Leu Ser Leu Gly Lys Glu	
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Gly Pro Leu Val His Val Ala Cys Cys Cys Gly Asn Phe Phe Ser Ser	
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Ser Ala Ala Ala Ala Ala Gly Val Ser Val Ala Phe Gly Ala Pro Ile	
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Gly Gly Val Leu Phe Ser Leu Glu Glu Val Ser Tyr Tyr Phe Pro Leu	
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Asp Lys Cys Pro Leu Trp Gln Lys Trp Ser Glu Leu Leu Val Asn Gln  
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Ser Glu Gly Ala Ser Ala Tyr Ile Leu Asn Tyr Leu Met Tyr Ile Leu  
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 Lys Thr Val Thr Leu Val Leu Val Val Ser Ser Gly Leu Ser Leu Gly  
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 Lys Glu Gly Pro Leu Val His Val Ala Cys Cys Cys Gly Asn Phe Phe  
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 Pro Leu Lys Thr Leu Trp Arg Ser Phe Phe Ala Ala Leu Val Ala Ala  
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 Asp Arg Pro Ala Gly Val Gly Val Tyr Thr Ala Met Trp Gln Leu Ala  
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 Lys Ile Pro Ser Gly Leu Phe Ile Pro Ser Met Ala Val Gly Ala Ile  
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 Ala Gly Arg Met Val Gly Ile Gly Val Glu Gln Leu Ala Tyr His His  
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Gly Ile Ile Thr Lys Lys Asp Val Leu Arg His Met Ala Gln Met Ala  
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ctg ttc aga acg atg ggc ctg cgc cac ctg ccc gtg gtg aac gct gtg	2549
Leu Phe Arg Thr Met Gly Leu Arg His Leu Pro Val Val Asn Ala Val	
830 835 840	
gga gag atc gtg ggg atc atc aca cgg cac aac ctc acc tat gaa ttt	2597
Gly Glu Ile Val Gly Ile Ile Thr Arg His Asn Leu Thr Tyr Glu Phe	
845 850 855	
ctg cag gcc cgg ctg agg cag cac tac cag acc atc tga cagcccagcc	2646
Leu Gln Ala Arg Leu Arg Gln His Tyr Gln Thr Ile	
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tcacggaca ccttgctggt cagaggccct gggggtggtt ttgaaccatc agagcttgga	2826
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35 40 45  
Glu Ser Leu Asp Tyr Asp Arg Cys Ile Asn Asp Pro Tyr Leu Glu Val  
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Leu Glu Thr Met Asp Asn Lys Lys Gly Arg Arg Tyr Glu Ala Val Lys  
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Trp Met Val Val Phe Ala Ile Gly Val Cys Thr Gly Leu Val Gly Leu  
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Phe Val Asp Phe Phe Val Arg Leu Phe Thr Gln Leu Lys Phe Gly Val  
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Val Gln Thr Ser Val Glu Glu Cys Ser Gln Lys Gly Cys Leu Ala Leu  
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 Ser Leu Leu Val Leu Ile Glu Pro Val Ala Ala Gly Ser Gly Ile Pro  
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 Glu Val Lys Cys Tyr Leu Asn Gly Val Lys Val Pro Gly Ile Val Arg  
 165 170 175  
 Leu Arg Thr Leu Leu Cys Lys Val Leu Gly Val Leu Phe Ser Val Ala  
 180 185 190  
 Gly Gly Leu Phe Val Gly Lys Glu Gly Pro Met Ile His Ser Gly Ser  
 195 200 205  
 Val Val Gly Ala Gly Leu Pro Gln Phe Gln Ser Ile Ser Leu Arg Lys  
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 Ile Gln Phe Asn Phe Pro Tyr Phe Arg Ser Asp Arg Asp Lys Arg Asp  
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 Phe Val Ser Ala Gly Ala Ala Ala Gly Val Ala Ala Ala Phe Gly Ala  
 245 250 255  
 Pro Ile Gly Gly Thr Leu Phe Ser Leu Glu Glu Gly Ser Ser Phe Trp  
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 Asn Gln Gly Leu Thr Trp Lys Val Leu Phe Cys Ser Met Ser Ala Thr  
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 Phe Thr Leu Asn Phe Phe Arg Ser Gly Ile Gln Phe Gly Ser Trp Gly  
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 Ser Phe Gln Leu Pro Gly Leu Leu Asn Phe Gly Glu Phe Lys Cys Ser  
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 Asp Ser Asp Lys Lys Cys His Leu Trp Thr Ala Met Asp Leu Gly Phe  
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 Phe Val Val Met Gly Val Ile Gly Gly Leu Leu Gly Ala Thr Phe Asn  
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 Cys Leu Asn Lys Arg Leu Ala Lys Tyr Arg Met Arg Asn Val His Pro  
 355 360 365  
 Lys Pro Lys Leu Val Arg Val Leu Glu Ser Leu Leu Val Ser Leu Val  
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 Thr Thr Val Val Val Phe Val Ala Ser Met Val Leu Gly Glu Cys Arg  
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Val Thr Glu Asp Val Asn Ser Ser Ile Lys Thr Phe Phe Cys Pro Asn  
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 Asp Thr Tyr Asn Asp Met Ala Thr Leu Phe Phe Asn Pro Gln Glu Ser  
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 Asp Ile His Val Gly Leu Arg Gly Val Pro Leu Leu Glu Trp Glu Thr  
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 Glu Val Glu Met Asp Lys Leu Arg Ala Ser Asp Ile Met Glu Pro Asn  
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 Gly Asn Glu Lys Glu Phe Met Lys Gly Asn Gln Leu Ile Ser Asn Asn  
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 Ile Lys Phe Lys Lys Ser Ser Ile Leu Thr Arg Ala Gly Glu Gln Arg  
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 Lys Arg Ser Gln Ser Met Lys Ser Tyr Pro Ser Ser Glu Leu Arg Asn  
 675 680 685  
 Met Cys Asp Glu His Ile Ala Ser Glu Glu Pro Ala Glu Lys Glu Asp  
 690 695 700

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 Tyr Pro Asp Gln Ser Pro Ser Glu Asp Trp Thr Met Glu Glu Arg Phe  
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 740 745 750  
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 755 760 765  
 Gln Pro Arg Leu Ser Tyr Ala Glu Met Ala Glu Asp Tyr Pro Arg Tyr  
 770 775 780  
 Pro Asp Ile His Asp Leu Asp Leu Thr Leu Leu Asn Pro Arg Met Ile  
 785 790 795 800  
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 Arg His Leu Pro Val Val Asn Ala Val Gly Glu Ile Val Gly Ile Ile  
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 His Tyr Gln Thr Ile  
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 Met Ala Asn Val Ser Lys Lys Val Ser Trp Ser Gly Arg Asp  
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cgc gat gac gag gag ggg gcg ccg ctg ctt cga agg acg ggg caa cct	158
Arg Asp Asp Glu Glu Gly Ala Pro Leu Leu Arg Arg Thr Gly Gln Pro	
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Asp Glu Glu Thr Pro Leu Leu Asn Gly Ala Gly Pro Gly Ala Arg Gln	
35 40 45	
tct cat tct gca ctt ttc cga att gga cag atg aac aac gtg gag ctg	254
Ser His Ser Ala Leu Phe Arg Ile Gly Gln Met Asn Asn Val Glu Leu	
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Asp Asp Glu Leu Leu Asp Pro Glu Val Asp Pro Pro His Thr Phe Pro	
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Lys Glu Ile Pro His Asn Glu Lys Leu Leu Ser Leu Lys Tyr Glu Ser	
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ctg gac tat gac aat agt gag aat cag ctc ttc ctg gag gag gaa aga	398
Leu Asp Tyr Asp Asn Ser Glu Asn Gln Leu Phe Leu Glu Glu Glu Arg	
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cga atc aac cac acg gct ttc cgg aca gtg gag atc aag cgc tgg gtt	446
Arg Ile Asn His Thr Ala Phe Arg Thr Val Glu Ile Lys Arg Trp Val	
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Ile Cys Ala Leu Ile Gly Ile Leu Thr Gly Leu Val Ala Cys Phe Ile	
130 135 140	
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Asp Ile Val Val Glu Asn Leu Ala Gly Leu Lys Tyr Arg Val Ile Lys	
145 150 155	
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Asp Asn Ile Asp Lys Phe Thr Glu Lys Gly Gly Leu Ser Phe Ser Leu	
160 165 170	
ctg ctg tgg gcc aca ctg aac tct gcc ttc gtg ctc gtg ggg tct gtg	638
Leu Leu Trp Ala Thr Leu Asn Ser Ala Phe Val Leu Val Gly Ser Val	
175 180 185 190	
att gtg gcc ttc ata gag cca gtt gct gct ggc agc gga atc cct cag	686
Ile Val Ala Phe Ile Glu Pro Val Ala Ala Gly Ser Gly Ile Pro Gln	
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Ile Lys Cys Phe Leu Asn Gly Val Lys Ile Pro His Val Val Arg Leu	
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225 230 235	
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240 245 250	
att gct gca ggg att tca cag gga agg tcg acg tca ctc aag cga gat Ile Ala Ala Gly Ile Ser Gln Gly Arg Ser Thr Ser Leu Lys Arg Asp	878
255 260 265 270	
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275 280 285	
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290 295 300	
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305 310 315	
cag ttc ctg aca tgg aga att ttc ttt gct tcc atg att tcg acc ttt Gln Phe Leu Thr Trp Arg Ile Phe Phe Ala Ser Met Ile Ser Thr Phe	1070
320 325 330	
aca ctg aat ttt gtt ctg agc atc tac cat gga aac atg tgg gac ctg Thr Leu Asn Phe Val Leu Ser Ile Tyr His Gly Asn Met Trp Asp Leu	1118
335 340 345 350	
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355 360 365	
gcc tac aca atc cat gag att cct gtc ttc atc gcc atg ggt gtg gtg Ala Tyr Thr Ile His Glu Ile Pro Val Phe Ile Ala Met Gly Val Val	1214
370 375 380	
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385 390 395	
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400 405 410	
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415 420 425 430	

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Tyr	Ser	Ser	Arg	Asp	Cys	Gln	Pro	Leu	Gln	Gly	Ser	Ser	Met	Ser	Tyr	
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cca	ctc	cag	ctc	ttc	tgt	gca	gat	ggc	gaa	tac	aac	tca	atg	gcc	gca	1454
Pro	Leu	Gln	Leu	Phe	Cys	Ala	Asp	Gly	Glu	Tyr	Asn	Ser	Met	Ala	Ala	
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gcc	ttc	ttt	aac	acc	cct	gag	aag	agc	gtc	gtc	agc	ctg	ttc	cac	gac	1502
Ala	Phe	Phe	Asn	Thr	Pro	Glu	Lys	Ser	Val	Val	Ser	Leu	Phe	His	Asp	
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Pro	Pro	Gly	Ser	Tyr	Asn	Pro	Met	Thr	Leu	Gly	Leu	Phe	Thr	Leu	Val	
	480					485					490					
tac	ttc	ttc	ctg	gcc	tgc	tgg	acc	tat	ggc	ctc	aca	gta	tct	gct	ggc	1598
Tyr	Phe	Phe	Leu	Ala	Cys	Trp	Thr	Tyr	Gly	Leu	Thr	Val	Ser	Ala	Gly	
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gtc	ttc	atc	cca	tcc	ctg	ctc	att	ggg	gct	gcc	tgg	ggc	cga	ctc	ttt	1646
Val	Phe	Ile	Pro	Ser	Leu	Leu	Ile	Gly	Ala	Ala	Trp	Gly	Arg	Leu	Phe	
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ggc	atc	tcc	atg	tcc	tac	ctc	aca	gga	gca	gcg	atc	tgg	gca	gat	ccg	1694
Gly	Ile	Ser	Met	Ser	Tyr	Leu	Thr	Gly	Ala	Ala	Ile	Trp	Ala	Asp	Pro	
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	545					550						555				
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Arg	Met	Thr	Leu	Ser	Leu	Thr	Val	Ile	Met	Met	Glu	Ala	Thr	Ser	Asn	
	560					565					570					
gtg	acc	tac	ggc	ttt	ccc	atc	atg	ttg	gtg	ctg	atg	act	gcc	aag	att	1838
Val	Thr	Tyr	Gly	Phe	Pro	Ile	Met	Leu	Val	Leu	Met	Thr	Ala	Lys	Ile	
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Val	Gly	Asp	Val	Phe	Ile	Glu	Gly	Leu	Tyr	Asp	Met	His	Ile	Gln	Leu	
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caa	agt	gtg	ccc	ttc	cta	cac	tgg	gaa	gcc	ccg	gtc	acc	tca	cat	tcg	1934
Gln	Ser	Val	Pro	Phe	Leu	His	Trp	Glu	Ala	Pro	Val	Thr	Ser	His	Ser	
			610					615					620			
ctc	act	gcc	agg	gaa	gta	atg	agc	acg	cct	gtg	acc	tgc	ctg	agg	agg	1982
Leu	Thr	Ala	Arg	Glu	Val	Met	Ser	Thr	Pro	Val	Thr	Cys	Leu	Arg	Arg	
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Asn His Asn Gly Phe Pro Val Val Glu Asp Val Gly Asp Thr Gln Pro	
655 660 665 670	
gcc aga ctc caa ggc cta atc ctg cgt tcc cag ctc atc gtg ctc ctg	2126
Ala Arg Leu Gln Gly Leu Ile Leu Arg Ser Gln Leu Ile Val Leu Leu	
675 680 685	
aag cac aag gtg ttt gtg gag agg tcc aac atg ggt ttg gtg cag cgg	2174
Lys His Lys Val Phe Val Glu Arg Ser Asn Met Gly Leu Val Gln Arg	
690 695 700	
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Arg Leu Arg Leu Lys Asp Phe Arg Asp Ala Tyr Pro Arg Phe Pro Pro	
705 710 715	
atc cag tcc atc cac gta tcc cag gat gag cgg gag tgc acc atg gac	2270
Ile Gln Ser Ile His Val Ser Gln Asp Glu Arg Glu Cys Thr Met Asp	
720 725 730	
ctt tct gag ttc atg aac cct tct ccc tac act gtg cca cag gag gca	2318
Leu Ser Glu Phe Met Asn Pro Ser Pro Tyr Thr Val Pro Gln Glu Ala	
735 740 745 750	
tct ctt cct cga gtg ttc aag ctg ttc cgg gct ctg ggc ctg agg cac	2366
Ser Leu Pro Arg Val Phe Lys Leu Phe Arg Ala Leu Gly Leu Arg His	
755 760 765	
ctg gtc gta gta gac aac cac aat cag gtg gtc ggg ctg gtg acc agg	2414
Leu Val Val Val Asp Asn His Asn Gln Val Val Gly Leu Val Thr Arg	
770 775 780	
aag gac cta gca aga tac cgc cta gga aaa gga ggc cta gaa gag ctt	2462
Lys Asp Leu Ala Arg Tyr Arg Leu Gly Lys Gly Gly Leu Glu Glu Leu	
785 790 795	
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Ser Leu Ala Gln Thr	
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 <212> PRT  
 <213> Rattus norvegicus

<400> 12

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Glu	Thr	Pro	Leu	Leu	Asn	Gly	Ala	Gly	Pro	Gly	Ala	Arg	Gln	Ser	His	35	40	45	
Ser	Ala	Leu	Phe	Arg	Ile	Gly	Gln	Met	Asn	Asn	Val	Glu	Leu	Asp	Asp	50	55	60	
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Ile	Pro	His	Asn	Glu	Lys	Leu	Leu	Ser	Leu	Lys	Tyr	Glu	Ser	Leu	Asp	85	90	95	
Tyr	Asp	Asn	Ser	Glu	Asn	Gln	Leu	Phe	Leu	Glu	Glu	Glu	Arg	Arg	Ile	100	105	110	
Asn	His	Thr	Ala	Phe	Arg	Thr	Val	Glu	Ile	Lys	Arg	Trp	Val	Ile	Cys	115	120	125	
Ala	Leu	Ile	Gly	Ile	Leu	Thr	Gly	Leu	Val	Ala	Cys	Phe	Ile	Asp	Ile	130	135	140	
Val	Val	Glu	Asn	Leu	Ala	Gly	Leu	Lys	Tyr	Arg	Val	Ile	Lys	Asp	Asn	145	150	155	160
Ile	Asp	Lys	Phe	Thr	Glu	Lys	Gly	Gly	Leu	Ser	Phe	Ser	Leu	Leu	Leu	165	170	175	
Trp	Ala	Thr	Leu	Asn	Ser	Ala	Phe	Val	Leu	Val	Gly	Ser	Val	Ile	Val	180	185	190	
Ala	Phe	Ile	Glu	Pro	Val	Ala	Ala	Gly	Ser	Gly	Ile	Pro	Gln	Ile	Lys	195	200	205	
Cys	Phe	Leu	Asn	Gly	Val	Lys	Ile	Pro	His	Val	Val	Arg	Leu	Lys	Thr	210	215	220	
Leu	Val	Ile	Lys	Val	Ser	Gly	Val	Ile	Leu	Ser	Val	Val	Gly	Gly	Leu	225	230	235	240
Ala	Val	Gly	Lys	Glu	Gly	Pro	Met	Ile	His	Ser	Gly	Ser	Val	Ile	Ala	245	250	255	

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Ile Phe Glu Tyr Phe Arg Arg Asp Thr Glu Lys Arg Asp Phe Val Ser  
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Gly Val Leu Phe Ser Leu Glu Glu Gly Ala Ser Phe Trp Asn Gln Phe  
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Leu Thr Trp Arg Ile Phe Phe Ala Ser Met Ile Ser Thr Phe Thr Leu  
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Asn Phe Val Leu Ser Ile Tyr His Gly Asn Met Trp Asp Leu Ser Ser  
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Pro Gly Leu Ile Asn Phe Gly Arg Phe Asp Ser Glu Lys Met Ala Tyr  
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Thr Ile His Glu Ile Pro Val Phe Ile Ala Met Gly Val Val Gly Gly  
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Ile Leu Gly Ala Val Phe Asn Ala Leu Asn Tyr Trp Leu Thr Met Phe  
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Arg Ile Arg Tyr Ile His Arg Pro Cys Leu Gln Val Ile Glu Ala Met  
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Ser Arg Asp Cys Gln Pro Leu Gln Gly Ser Ser Met Ser Tyr Pro Leu  
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Gln Leu Phe Cys Ala Asp Gly Glu Tyr Asn Ser Met Ala Ala Ala Phe  
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Phe Asn Thr Pro Glu Lys Ser Val Val Ser Leu Phe His Asp Pro Pro  
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Gly Ser Tyr Asn Pro Met Thr Leu Gly Leu Phe Thr Leu Val Tyr Phe  
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Ile Pro Ser Leu Leu Ile Gly Ala Ala Trp Gly Arg Leu Phe Gly Ile  
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Ser Met Ser Tyr Leu Thr Gly Ala Ala Ile Trp Ala Asp Pro Gly Lys  
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Asn His Asn Gly Phe Pro Val Val Glu His Ala Asp Asp Thr Gln Pro	
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Lys His Lys Val Phe Val Glu Arg Ser Asn Leu Gly Leu Val Gln Arg	
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Asp Asp Glu Leu Leu Asp Pro Asp Met Asp Pro Pro His Pro Phe Pro
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Lys Glu Ile Pro His Asn Glu Lys Leu Leu Ser Leu Lys Tyr Glu Ser
      65              70              75              80

Leu Asp Tyr Asp Asn Ser Glu Asn Gln Leu Phe Leu Glu Glu Glu Arg
          85              90              95

Arg Ile Asn His Thr Ala Phe Arg Thr Val Glu Ile Lys Arg Trp Val
          100              105              110

Ile Cys Ala Leu Ile Gly Ile Leu Thr Gly Leu Val Ala Cys Phe Ile
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Asp Ile Val Val Glu Asn Leu Ala Gly Leu Lys Tyr Arg Val Ile Lys
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Gly Asn Ile Asp Lys Phe Thr Glu Lys Gly Gly Leu Ser Phe Ser Leu
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Leu Leu Trp Ala Thr Leu Asn Ala Ala Phe Val Leu Val Gly Ser Val
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Ile Val Ala Phe Ile Glu Pro Val Ala Ala Gly Ser Gly Ile Pro Gln
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Ile Lys Cys Phe Leu Asn Gly Val Lys Ile Pro His Val Val Arg Leu
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Lys Thr Leu Val Ile Lys Val Ser Gly Val Ile Leu Ser Val Val Gly
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Gly Leu Ala Val Gly Lys Glu Gly Pro Met Ile His Ser Gly Ser Val
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Ile Ala Ala Gly Ile Ser Gln Gly Arg Ser Ser Ser Leu Lys Arg Asp
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Val	Gly	Gly	Val	Leu	Phe	Ser	Leu	Glu	Glu	Gly	Ala	Ser	Phe	Trp	Asn	290	295	300
Gln	Phe	Leu	Thr	Trp	Arg	Ile	Phe	Phe	Ala	Ser	Met	Ile	Ser	Thr	Phe	305	310	315
Thr	Leu	Asn	Phe	Val	Leu	Ser	Ile	Tyr	His	Gly	Asn	Met	Trp	Asp	Leu	325	330	335
Ser	Ser	Pro	Gly	Leu	Ile	Asn	Phe	Gly	Arg	Phe	Asp	Ser	Glu	Lys	Met	340	345	350
Ala	Tyr	Thr	Ile	His	Glu	Ile	Pro	Val	Phe	Ile	Ala	Met	Gly	Val	Val	355	360	365
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Leu	Ser	Glu	Phe	Met	Asn	Pro	Ser	Pro	Tyr	Thr	Val	Pro	Gln	Glu	Ala	725	730	735	
Ser	Leu	Pro	Arg	Val	Phe	Lys	Leu	Phe	Arg	Ala	Leu	Gly	Leu	Arg	His	740	745	750	
Leu	Val	Val	Val	Asp	Asn	Arg	Asn	Gln	Val	Val	Gly	Leu	Val	Thr	Arg	755	760	765	
Lys	Asp	Leu	Ala	Arg	Tyr	Arg	Leu	Gly	Lys	Arg	Gly	Leu	Glu	Glu	Leu	770	775	780	
Ser	Leu	Ala	Gln	Thr												785			